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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/575,680

04/13/2006

Yasuhiro Watanabe

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EXAMINER

ZHANG, YUANDA

ART UNIT

PAPER NUMBER

2828

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,680	<b>Applicant(s)</b> WATANABE ET AL.	
	<b>Examiner</b> YUANDA ZHANG	<b>Art Unit</b> 2828	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/27/09</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Komoto (US PG Pub 2003/0231672 A1).
4. In re claim 1, with reference to figures 1A-1C, Komoto discloses a two-beam semiconductor laser device comprising: a two-beam semiconductor element (two-wavelength semiconductor laser element 3) having first and second semiconductor laser elements that can be driven independently and that are formed integrally on a substrate (paragraph [0030]); and a submount (ceramic substrate 6 is interpreted to be a submount) having, mounted on a front part thereof, the two-beam semiconductor laser element with a light-emitting face thereof directed forward (emits a laser beams forward 8) and having first and second electrode pads connected to electrodes of the first and second semiconductor laser element elements by being kept in contact therewith (electrode is formed on the surface of substrate 6) (paragraph [0024]), wherein no photo-detector is provided behind the two-beam semiconductor laser element on the

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submount (there is no photo-detector element mounted on substrate 6 as shown in figure 1A), and wherein the first and second electrode pads are formed to extend farther behind the two- beam semiconductor laser element (electrode covers the surface of substrate 6 which extends behind semiconductor laser element 3 as shown in figure 1A), and are wire-bonded behind the two-beam semiconductor laser element (bonding wires 7b & 7c are located behind the two beam semiconductor laser element as shown in figure 1A) (paragraph [0019]).

5. In re claim 2, Komoto discloses wherein the first and second electrode pads are wire-bonded at a rear end of the submount (see figure 1A).

6. In re claim 5, Komoto discloses wherein the submount is mounted in a package composed of a frame and a resin member (enclosure 2 is made of resin) (paragraph [0020]).

7. In re claim 6, Komoto discloses wherein the two-beam semiconductor laser device is built as a three- terminal two-beam semiconductor laser device having three terminals (third terminal is by bonding wire 7a connected to lead frame 1) (paragraph [0019]).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komoto (US PG Pub 2003/0231672 A1) in view of Matsuda (US Patent 7,009,919 B2).

10. In re claim 3, Komoto has disclosed the claimed invention except wherein a distance from the rear end of the two-beam semiconductor laser element to a position where the first and second electrode pads are wire-bonded is 300 micron or less. With reference to figure 2, Matsuda discloses a two-wavelength semiconductor laser structure 30 and its rear end is very close to the wire bonding electrodes 45 and 46 (see figure 3); therefore, the Examiner has interpreted the distance to be less than 300 micron in perspective of the dimension of the substrate of the laser structure which is 300 micron x 400 micron x 100 - 120 micron (col. 7 lines 4-5). In addition, with reference to figure 1A, Komoto discloses that distance X1 from the front of the semiconductor laser element 3 to the front section 301 can be set to a desired value (paragraph [0022]). The Examiner has interpreted that a distance from rear end of the semiconductor laser element to a position where the first and second electrode pads are wire-bonded can be 300 micron or less if X1 is set to an appropriate distance. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the distance X1 of Komoto with an appropriate distance so that a distance from rear end of the semiconductor laser element to a position where the electrode pads are wire-bonded can be 300 micron or less in order to improve degree of design freedom (paragraph [0022]).

11. In re claim 4, Komoto has disclosed the claimed invention except wherein a lateral length of the submount is 400 micron or more but 700 micron or less. In

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reference to figure 3, Matsuda discloses a two-wavelength semiconductor laser structure 30 on top of sub-mount 44 comprising a substrate having a lateral length of 400 micron (substrate 31 with an outer size of the order 300 micron x 400 micron x 100 – 120 micron) (col. 7 lines 4-5); therefore, sub-mount 44 must have at least 400 micron in lateral length of at least 400 micron in order for the laser structure to be situated on top. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the lateral length of the submount with Komoto to have a range of 400 micron or more and 700 micron or less, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 MPEP 2144.05 (II-A)

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUANDA ZHANG whose telephone number is (571)270-1439. The examiner can normally be reached on Monday-Friday, 9:00am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yuanda Zhang/  
Examiner, Art Unit 2828  
05/07/09

/Minsun Harvey/  
Supervisory Patent Examiner, Art Unit 2828